



# Prof James Busfield

MA, PhD, CEng, FREng, FIMMM, FHEA

School of Engineering and Materials Science Queen Mary University of London Mile End Road London E1 4NS

tel: +44 (0)20 7882 8866 email: j.busfield@qmul.ac.uk web: www.sems.qmul.ac.uk/j.busfield

# 2021

**The Nail Penetration Behaviour of Carbon Nanotube Composite Electrodes for Energy Storage.** Koliolios E, Mills DG, Busfield JJC and Tan W. *Frontiers in Materials vol. 8, 741541-741541.Frontiers Media.* 

**Thermomechanical Characterization of Carbon Black Reinforced Rubbers During Rapid Adiabatic Straining.** Kyei-Manu WA, Tunnicliffe LB, Plagge J, Herd CR, Akutagawa K, Pugno NM and Busfield JJC. *Frontiers in Materials vol. 8, 743146-743146.* 

**Characterising the friction coefficient between rubber O-rings and a rigid surface under extreme pressures.** Yanes E, Pugno NM, Ramier J, Berryhill B and Busfield JJC. *Polymer Testing 107378-107378.* 

Novel crosslinking system for poly-chloroprene rubber to enable recyclability and introduce self-healing. Kaur A, Gautrot JE, Cavalli G, Watson D, Bickley A, Akutagawa K and Busfield JJC. *Polymers vol. 13, (19).* 

## Electrically Tunable Lenses: A Review.

Chen L, Ghilardi M, Busfield JJC and Carpi F. Frontiers in Robotics and Ai vol. 8, Frontiers Media Sa.

A Soft Touch: Wearable Tactile Display of Softness Made of Electroactive Elastomers. Frediani G, Boys H, Ghilardi M, Poslad S, Busfield JJC and Carpi F. *Advanced Materials Technologies*.

## 2020

**Determination of the Loading Mode Dependence of the Proportionality Parameter for the Tearing Energy of Embedded Flaws in Elastomers Under Multiaxial Deformations.** WINDSLOW R, Hohenberger T and Busfield J. *Advances in Polymer Science.Springer Verlag.* 

The effect of conductive network on positive temperature coefficient behaviour in conductive polymer composites.

Liu Y, Asare E, Porwal H, Barbieri E, Goutianos S, Evans J, Newton M, Busfield JJC, Peijs T, Zhang H and Bilotti E. *Composites Part a: Applied Science and Manufacturing vol. 139, Elsevier.* 

**Electrically tunable directional light scattering from soft thin membranes.** Chen L, Busfield J and Carpi F. *Optics Express vol. 28, (14) 20669-20685.The Optical Society.* 

Modeling the Full Time-Dependent Phenomenology of Filled Rubber for Use in Anti-Vibration Design. Carleo F, Plagge J, Whear R, Busfield J and Klüppel M. *Polymers vol. 12, (4) 841-841.Mdpi Ag.* 

# Fatigue of carbon cord-rubber composites: Effect of frequency, R ratio and lifetime prediction using constant life models.

Busfield J, Bilotti E, Peijs T, Tao Y and Stevens C. International Journal of Fatigue. Elsevier.

## Bioreactor with electrically deformable curved membranes for mechanical stimulation of cell cultures.

Costa J, Ghilardi M, Mamone V, Ferrari V, Busfield J, Ahluwalia A and Carpi F. *Frontiers in Bioengineering and Biotechnology vol. 8, Frontiers Media.* 

## Sustainable and self-regulating out-of-oven manufacturing of FRPs with integrated multifunctional capabilities.

Liu Y, van Vliet T, Tao Y, Busfield JJC, Peijs T, Bilotti E and Zhang H. *Composites Science and Technology vol. 190,*. *Elsevier*.

## 2019

## Electrically tuning soft membranes to both a higher and a lower transparency.

Chen L, Ghilardi M, Busfield JJC and Carpi F. Scientific Reports vol. 9, (1). Nature Publishing Group.

## A new generalized philosophy and theory for rubber friction and wear.

Fukahori Y, Gabriel P, Liang H and Busfield JJC. Wear 203166-203166. Elsevier.

# Constitutive Model for both Low and High Strain Non-Linearities in Highly Filled Elastomers and Implementation with user-defined Material Subroutines in Abaqus.

Busfield J, Hohenberger T, Pugno N and WINDSLOW R. Rubber Chemistry and Technology vol. 92, (4) 653-686. American Chemical Society.

## Smart Lenses with Electrically Tuneable Astigmatism.

Ghilardi M, Boys H, Török P, Busfield JJC and Carpi F. Scientific Reports vol. 9, (1) 16127-16127. Nature Publishing Group.

# Water-Responsive and Mechanically-Adaptive Natural Rubber Composites by in-Situ Modification of Mineral Filler Structures.

Banerjee SS, Hait S, Natarajan TS, Wiessner S, Stöckelhuber KW, Jehnichen D, Janke A, Fischer D, Heinrich G, Busfield JJC and Das A. *The Journal of Physical Chemistry B.American Chemical Society (Acs).* 

## Viscoelastic Modelling of Extrusion Damage in Elastomer Seals.

BUSFIELD JJC and WINDSLOW R. Soft Materials vol. 17, (3) 228-240. Taylor & Francis.

## Modelling of elastomeric materials and products.

BUSFIELD J. Plastics, Rubber and Composites vol. 48, (1) 1-2.

## 2018

**Pyroresistivity in Conductive Polymer Composites: A Perspective on Recent Advances and New Applications.** BILOTTI E, LIU Y, ZHANG H, PORWAL H, BUSFIELD J and PEIJS AA. *Polymer International.Wiley.* 

## Enabling portable multiple-line refreshable Braille displays with electroactive elastomers.

Frediani G, Busfield J and Carpi F. Medical Engineering and Physics vol. 60, 86-93.

## Development of a novel fatigue test method for cord-rubber composites.

Tao Y, Windslow R, Stevens CA, Bilotti E, Peijs T and Busfield JJC. Polymer Testing vol. 71, 238-247.

# Limitations of viscoelastic constitutive models for carbon-black reinforced rubber in medium dynamic strains and medium strain rates.

Carleo F, Barbieri E, Whear R and Busfield JJC. Polymers vol. 10, (9).

# Smart cord-rubber composites with integrated sensing capabilities by localised carbon nanotubes using a simple swelling and infusion method.

Tao Y, Liu Y, Zhang H, Stevens CA, Bilotti E, Peijs T and Busfield JJC. *Composites Science and Technology vol. 167, 24-31.* 

Adhesive Friction Behaviour of Rough Rubber Surfaces sliding against Smooth Rigid Surfaces. BUSFIELD JJC, Thomas A and STRATFORD DEVALBA D. *Rubber Chemistry and Technology vol. 91, (3) 621-632. American Chemical Society.* 

### 

## 

美è<± æ·±, SAKULKAEW K and BUSFIELD JJC. ??????? vol. 91, (6) 185-191.

Tailored pyroresistive performance and flexibility by introducing a secondary thermoplastic elastomeric phase into graphene nanoplatelet (GNP) filled polymer composites for self-regulating heating devices.

Liu Y, Zhang H, Porwal H, Tu W, Wan K, Evans J, Newton M, Busfield JJC, Peijs T and Bilotti E. Journal of Materials Chemistry C vol. 6, (11) 2760-2768.

## 2017

Investigation of interfacial slippage on filler reinforcement in carbon-black filled elastomers. Busfield JJC, Jha V, Hon AA and Thomas AG. Constitutive Models For Rubber Iv.

Universal Control on Pyro-resistive Behaviour of Flexible Self-regulating Heating Devices. LIU Y, ZHANG H, PORWAL H, TU W, Evans J, NEWTON M, BUSFIELD JJC, Peijs and Bilotti E. Advanced Functional Materials.Wiley.

"A new physical aspect for elastic-viscous transition and velocity jump in fracture of rubbers". Fukahori Y, Sakulkaew K and Busfield JJC. Polymer vol. 125, 30-39.

Service life prediction under combined cyclic and steady state tearing. Shaw BHK, Busfield JJC, Jerabek J and Ramier J. Constitutive Models For Rubber X.

A new constitutive model for carbon-black reinforced rubber in medium dynamic strains and medium strain rates.

Carleo F, Busfield J, Whear R and Barbieri E. Constitutive Models For Rubber X.

Fatigue behaviour of unidirectional carbon-cord reinforced composites and parametric models for life prediction.

Tao Y, Bilotti E, Busfield JJC and Stevens CA. Constitutive Models For Rubber X.

Surface free energy analysis of electrospun fibers based on Rayleigh-Plateau / Weber instabilities. Stachewicz U, Dijksman JF, Soudani C, Tunnicliffe LB, BUSFIELD JJC and Barber AH. European Polymer Journal. Elsevier.

# 2016

Effects of surface deactivation of carbon black on thermo-mechanical sensitivity of filler networks in rubber compounds.

BUSFIELD JJC, tunnicliffe L and thomas A. Macromolecular Materials and Engineering.

Reinforcement of rubber and filler network dynamics at small strains. BUSFIELD JJC and tunnicliffe.

Strain-Dependent Dielectric Behavior of Carbon Black Reinforced Natural Rubber. Huang M, Tunnicliffe LB, Zhuang J, Ren W, Yan H and Busfield JJC. Macromolecules vol. 49, (6) 2339-2347.

# 2015

Factors affecting fatigue life of cord reinforced rubber and the stress distribution modelling under static and dynamic conditions.

Tao Y, Bilotti E, Thomas A, Busfield J, Hayes C and Stevens C. Constitutive Models For Rubber Ix.

Electrical breakdown of an acrylic dielectric elastomer: Effects of hemispherical probing electrodes size and force.

Chen B, Kollosche M, Stewart M, Busfield J and Carpi F. International Journal of Smart and Nano Materials vol. 6, (4) 290-303.

The free retraction of natural rubber: A momentum-based model. Tunnicliffe LB, Thomas AG and Busfield JJC. Polymer Testing vol. 47, 36-41.

The glass transition, segmental relaxations and viscoelastic behaviour of particulate-reinforced natural rubber. Huang M, Tunnicliffe LB, Thomas AG and Busfield JJC. European Polymer Journal vol. 67, 232-241.

# 2014

## Flocculation and viscoelastic behaviour in carbon black-filled natural rubber.

Tunnicliffe LB, Kadlcak J, Morris MD, Shi Y, Thomas AG and Busfield JJC. *Macromolecular Materials and Engineering vol.* 299, (12) 1474-1483.

#### Stress relaxation, creep and set recovery of elastomers.

Yamaguchi K, Thomas AG and Busfield JJC. International Journal of Non-Linear Mechanics.

# Enhanced conductivity behavior of polydimethylsiloxane (PDMS) hybrid composites containing exfoliated graphite nanoplatelets and carbon nanotubes.

Kong KTS, Mariatti M, Rashid AA and Busfield JJC. Composites Part B: Engineering vol. 58, 457-462.

## 2013

**Elastic-viscous transition in tear fracture of rubbers.** Fukahori Y, Sakulkaew K and Busfield JJC. *Polymer vol. 54, (7) 1905-1915.* 

## The effect of temperature on the tearing of rubber.

Sakulkaew K, Thomas AG and Busfield JJC. Polymer Testing vol. 32, (1) 86-93.

## Electrical breakdown of dielectric elastomer actuator materials.

Chen B, Busfield JJC, Stewart M and Cain MG. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 701-704.

## Dielectric elastomer actuators for tuneable optics.

Zahabi H, Frediani G, Busfield JJC and Carpi F. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 697-700.

## The application of a carbon black filled elastomer to create a smart strain sensor.

Huang M, Thomas AG and Busfield JJC. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 705-710.

## The effect of fillers on crosslinking, swelling and mechanical properties of peroxide-cured rubbers.

Tunnicliffe LB, Thomas AG, Busfield JJC and Farid AS. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 563-568.

## Effect of the blade sharpness on the blade abrasion of rubber.

Wu G, Thomas AG and Busfield JJC. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 65-68.

## Evaluation of the tearing energy in a radial tyre.

Baumard TLM, Thomas AG and Busfield JJC. Constitutive Models For Rubber Viii - Proceedings of The 8th European Conference On Constitutive Models For Rubbers, Eccmr 2013 377-382.

## MODIFIED GUTH-GOLD EQUATION FOR CARBON BLACK-FILLED RUBBERS.

Fukahori Y, Hon AA, Jha V and Busfield JJC. Rubber Chemistry and Technology vol. 86, (2) 218-232.

Auxetic oesophageal stents: structure and mechanical properties.

Ali MN, Busfield JJC and Rehman IU. Journal of Materials Science: Materials in Medicine 1-27.

# Studying NR/organo-montmorillonite nanocomposites with silane coupling agents via network visualization tem.

Lowe DJ, Chapman AV, Cook S and Busfield JJC. Rubber Chemistry and Technology vol. 86, (4) 538-557.

## 2012

# Effect of processing methods and functional groups on the properties of multi-walled carbon nanotube filled poly(dimethyl siloxane) composites.

Kong KTS, Mariatti M, Rashid AA and Busfield JJC. Polymer Bulletin vol. 69, (8) 937-953.

## Fatigue peeling at rubber interfaces.

Baumard TLM, Thomas AG and Busfield JJC. Plastics, Rubber and Composites vol. 41, (7) 296-300.

## Editorial.

Busfield J. Plastics, Rubber and Composites vol. 41, (7) 271-272.

# Silica-rubber microstructure visualised in three dimensions by focused ion beam-scanning electron microscopy. Tunnicliffe LB, Thomas AG and Busfield JJC. *Journal of Microscopy vol.* 246, (1) 77-82.

#### Fatigue peeling of rubber.

Baumard TLM, Thomas AG, Ding W and Busfield JJC. Constitutive Models For Rubber Vii - Proceedings of The 7th European Conference On Constitutive Models For Rubber, Eccmr 293-297.

#### Energy losses at small strains in filled rubbers.

Tunnicliffe LB, Thomas AG and Busfield JJC. Constitutive Models For Rubber Vii - Proceedings of The 7th European Conference On Constitutive Models For Rubber, Eccmr 63-67.

## A new approach to characterize the onset tearing in rubber.

Sakulkaew K, Thomas AG and Busfield JJC. Constitutive Models For Rubber Vii - Proceedings of The 7th European Conference On Constitutive Models For Rubber, Eccmr 185-189.

Effect of processing methods and functional groups on the properties of multi-walled carbon nanotube filled poly(dimethyl siloxane) composites.

Kong KTS, Mariatti M, Rashid AA and Busfield JJC. Polymer Bulletin 1-17.

**Deformation of uncemented metal acetabular cups following impaction: Experimental and finite element study.** Hothi HS, Busfield JJC and Shelton JC. *Computer Methods in Biomechanics and Biomedical Engineering.* 

## 2011

Micromechanical models of young's modulus of NR/organoclay nanocomposites. Lowe DJ, Chapman AV, Cook S and Busfield JJC. *Journal of Polymer Science, Part B: Polymer Physics vol. 49, (22)* 1621-1627.

The dynamic properties of fumed silica filled SBR as function of pre-strain.

Suphadon N and Busfield JJC. Polymer Testing vol. 30, (7) 779-783.

Natural rubber nanocomposites by in situ modification of clay. Lowe DJ, Chapman AV, Cook S and Busfield JJC. *Macromolecular Materials and Engineering vol.* 296, (8) 693-702.

Light scattering and transmission studies of nanofiller particulate size, matrix cavitation, and high strain interfacial dewetting behavior in silica-elastomer composites.

Tunnicliffe LB, Thomas AG and Busfield JJC. Journal of Polymer Science, Part B: Polymer Physics vol. 49, (15) 1084-1092.

#### Effects of types of fillers and filler loading on the properties of silicone rubber composites.

Kong SM, Mariatti M and Busfield JJC. Journal of Reinforced Plastics and Composites vol. 30, (13) 1087-1096.

Fatigue life prediction of bonded rubber components at elevated temperature.

Asare S and Busfield JJC. Plastics, Rubber and Composites vol. 40, (4) 194-200.

## Modelling of elastomeric materials and products.

Busfield JJC. Plastics, Rubber and Composites vol. 40, (4) 151-153.

#### The effect of the rate of strain on tearing in rubber.

Sakulkaew K, Thomas AG and Busfield JJC. Polymer Testing vol. 30, (2) 163-172.

#### Explicit finite element modelling of the impaction of metal press-fit acetabular components.

Hothi HS, Busfield JJC and Shelton JC. Proceedings of The Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine vol. 225, (3) 303-314.

# 2010

## Axial compression of hollow elastic spheres.

Shorter R, Smith JD, Coveney VA and Busfield JJC. *Journal of Mechanics of Materials and Structures vol. 5, (5)* 693-705.

## Fea modeling of schallamach waves.

Gabriel P, Fukahori Y, Thomas AG and Busfield JJC. Rubber Chemistry and Technology vol. 83, (4) 358-367.

## How does rubber truly slide between Schallamach waves and stick-slip motion?.

Fukahori Y, Gabriel P and Busfield JJC. Wear vol. 269, (11-12) 854-866.

# The viscoelastic behavior of rubber under a complex loading. II. The effect large strains and the incorporation of carbon black.

Suphadon N, Thomas AG and Busfield JJC. Journal of Applied Polymer Science vol. 117, (3) 1290-1297.

## **The viscoelastic behaviour of rubber under a small simple shear oscillation superimposed on a large pure shear.** Suphadon N, Thomas AG and Busfield JJC. *Polymer Testing vol. 29, (4) 440-444.*

## Reversible electrical behavior with strain for a carbon black-filled rubber.

Jha V, Thomas AG, Bennett M and Busfield JJC. Journal of Applied Polymer Science vol. 116, (1) 541-546.

## Getting smarter.

Busfield J and Adams J. Materials World vol. 18, (4) 19-21.

**Piezoresistive polymer composites based on EPDM and MWNTs for strain sensing applications.** Ciselli P, Lu L, Busfield JJC and Peijs T. *E-Polymers*.

## Influence of interface geometry on rubber friction.

Gabriel P, Thomas AG and Busfield JJC. Wear vol. 268, (5-6) 747-750.

# The steady state abrasion of rubber: Why are the weakest rubber compounds so good in abrasion?.

Liang H, Fukahori Y, Thomas AG and Busfield JJC. Wear vol. 268, (5-6) 756-762.

## 2009

**Editorial: Rubber in engineering.** Busfield J and Burke M. *Plastics, Rubber and Composites vol. 38, (8).* 

**Elastic behaviour of rubber cylinders under combined torsion and tension loading.** Suphadon N and Busfield JJC. *Plastics, Rubber and Composites vol. 38, (8) 337-342.* 

## Hyperelasticity with volumetric damage.

. Constitutive Models For Rubber Vi.

## Modelling friction and abrasion in rubber.

Busfield J. Constitutive Models For Rubber Vi.

**The visco-elastic behaviour of elastomers at large pre-strains.** Suphadon N, Busfield J and Thomas A. *Constitutive Models For Rubber Vi.* 

## The mechanics of sliding friction between a rigid indenter and a rubber surface.

Busfield J, Thomas A, Gabriel P and Fukahori Y. Constitutive Models For Rubber Vi.

## Viscoelastic behavior of rubber under a complex loading.

Suphadon N, Thomas AG and Busfield JJC. Journal of Applied Polymer Science vol. 113, (2) 693-699.

## Rubber abrasion at steady state.

Liang H, Fukahori Y, Thomas AG and Busfield JJC. Wear vol. 266, (1-2) 288-296.

## Cyclic stress relaxation (CSR) of filled rubber and rubber components.

Asare S, Thomas AG and Busfield JJC. Rubber Chemistry and Technology vol. 82, (1) 104-112.

# 2008

## Multifunctional elastomer nanocomposites based on EPDM and carbon nanotubes.

Ciselli P, Lu L, Busfield JJC and Peijs T. Materials Research Society Symposium Proceedings vol. 1137, 61-72.

## Rate transitions in the fatigue crack growth of elastomers.

Papadopoulos IC, Thomas AG and Busfield JJC. Journal of Applied Polymer Science vol. 109, (3) 1900-1910.

## Criteria for crack initiation during rubber abrasion.

Fukahori Y, Liang H and Busfield JJC. Wear vol. 265, (3-4) 387-395.

## Modeling of the effect of rigid fillers on the stiffness of rubbers.

Jha V, Hon AA, Thomas AG and Busfield JJC. Journal of Applied Polymer Science vol. 107, (4) 2572-2577.

Multifunctional elastomer nanocomposites based on EPDM and carbon nanotubes. Ciselli P, Lu L, Busfield JJC and Peijs T. Materials Research Society Symposium Proceedings vol. 1143, 31-42.

#### Multifunctional Elastomer Nanocomposites based on EPDM and Carbon Nanotubes. Ciselli P, Lu L, Busfield JJ and Peijs T. Mrs Advances vol. 1143,.

## 2007

Volume changes under strain resulting from the incorporation of rubber granulates into a rubber matrix. Kumar P, Fukahori Y, Thomas AG and Busfield JJC. Journal of Polymer Science, Part B: Polymer Physics vol. 45, (23) 3169-3180.

## Recycled rubber: The rubber granulate - Virgin rubber interface.

Kumar P, Fukahori Y, Thomas AG and Busfield JJC. Rubber Chemistry and Technology vol. 80, (1) 24-39.

## 2006

## Selection of elastomers for a synthetic heart valve.

Baxter S, Busfield JJC and Peijs T.

# Using FEA techniques to predict fatigue failure in elastomers.

Busfield JJC and Ng WH.

## Chapter 12 Selection of Elastomers for a Synthetic Heart Valve.

Baxter S, Busfield JJC and Peijs T. Elastomers and Components.

## The Rubber in Engineering Series IOM3.

Boast D, Busfield JJC, Coveney VA, Hepburn C, Muhr AH and Whear R. Elastomers and Components.

## Chapter 13 Using FEA Techniques to Predict Fatigue Failure in Elastomers.

Busfield JJC and Ng WH. Elastomers and Components.

## **Appendix: Contact Details for Authors.**

Abraham F, Albihn P, Alshuth T, Azura AR, Busfield J, Campion R, Clotet M, Cook P, Coveney V, Daley J, Jerrams S, Johnson D, Lokander M, Mars W, Morgan G, Muhr A, Rizk R, Stenberg B, Thomas A, Wu W and Yeoh OH. Elastomers and Components.

## 2005

## Prediction of fatigue crack growth using finite element analysis techniques applied to three-dimensional elastomeric components.

Busfield JJC, Jha V, Liang H, Papadopoulos IC and Thomas AG. Plastics, Rubber and Composites vol. 34, (8) 349-356.

## Modelling the abrasion process in elastomer materials.

Busfield JJC, Liang H, Fukahori Y and Thomas AG. Constitutive Models For Rubber Iv - Proceedings of The 4th European Conference For Constitutive Models For Rubber, Eccmr 2005 139-143.

## Transitions in tear and fatigue crack growth in elastomers.

Busfield JJC, Papadopoulos IC and Thomas AG. Constitutive Models For Rubber Iv - Proceedings of The 4th European Conference For Constitutive Models For Rubber, Eccmr 2005 145-151.

## Investigation of interfacial slippage on filler reinforcement in carbon-black filled elastomers.

Busfield JJC, Jha V, Hon AA and Thomas AG. Constitutive Models For Rubber Iv - Proceedings of The 4th European Conference For Constitutive Models For Rubber, Eccmr 2005 459-464.

Electrical and mechanical behavior of filled rubber. III. Dynamic loading and the rate of recovery. Busfield JJC, Thomas AG and Yamaguchi K. Journal of Polymer Science, Part B: Polymer Physics vol. 43, (13) 1649-1661.

# 2004

Electrical and mechanical behavior of filled elastomers 2: The effect of swelling and temperature. Busfield JJC, Thomas AG and Yamaguchi K. Journal of Polymer Science, Part B: Polymer Physics vol. 42, (11 SPEC. ISS.) 2161-2167.

# 2003

Electrical and mechanical behavior of filled elastome. I. The effect of strain. Yamaguchi K, Busfield JJC and Thomas AG. Journal of Polymer Science, Part B: Polymer Physics vol. 41, (17) 2079-2089.

Constitutive models for rubber III : proceedings of the Third European Conference on Constitutive Models for Rubber, 15-17 September 2003, London, UK.

BUSFIELD JJC and Muhr AH. Balkema.

## 2002

Contributions of time dependent and cyclic crack growth to the crack growth behavior of non strain-crystallizing elastomers.

Busfield JJC, Tsunoda K, Davies CKL and Thomas AG. Rubber Chemistry and Technology vol. 75, (4) 643-656.

# 2001

Stiffness of simple bonded elastomer bushes Part 1 - Initial behaviour. Busfield JJC and Davies CKL. Plast Rubber Compos vol. 30, (5) 243-257.

## 2000

Effect of materials variables on the tear behaviour of a non-crystallising elastomer. Tsunoda K, Busfield JJC, Davies CKL and Thomas AG. J Mater Sci vol. 35, (20) 5187-5198.

The effect of liquids on the dynamic properties of carbon black filled natural rubber as a function of pre-strain. Busfield JJC, Deeprasertkul C and Thomas AG. Polymer vol. 41, (26) 9219-9225.

Microstructure of ceramic foams. Peng HX, Fan Z, Evans JRG and Busfield JJC. Journal of The European Ceramic Society vol. 20, (7) 807-813.

## 1999

Indentation tests on elastomer blocks. Busfield JJC and Thomas AG. Rubber Chemistry and Technology vol. 72, (5) 876-893.

## 1998

Finite-element-assisted modelling of a thermoplastic pultrusion process for powder-impregnated yarn. Haffner SM, Friedrich K, Hogg PJ and Busfield JJC. Composites Science and Technology vol. 58, (8) 1371-1380.

Finite Element Assisted Modelling of the Microscopic Impregnation Process in Thermoplastic Preforms. Haffner SM, Friedrich K, Hogg PJ and Busfield JJC. Applied Composite Materials vol. 5, (4) 237-255.